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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,694	02/27/2004	Stephen M. Potter	3932	9316

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EXAMINER	
MCGUTHRY BANKS, TIMA MICHELE	
ART UNIT	PAPER NUMBER
1793	
MAIL DATE	DELIVERY MODE
07/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/789,694	POTTER ET AL.	
	Examiner	Art Unit	
	TIMA M. MCGUTHRY-BANKS	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *27-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *27-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1-26 are cancelled and Claims 27-40 are new.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 14 April 2008 has been entered.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al (US 3,645,717) in view of Fujita et al (US 4,367,091) and Ando et al (US 3,813,913).

Meyer et al teaches an iron ore reduction process comprising pelletizing oxidic iron ore, firing the pellets at 700-1050 °C and reducing the pellets (column 1, lines 69-72). Lumps read on pellets. The pellets are dried before they are fired (column 2, lines 66 and 67). The sponge iron pellets have high porosity. The time for heating the charge is 5-60 minutes (column 3, line 15). Regarding Claim 28, the temperature of the sponge iron pellet to the reduction process

would be 150-350 °C, which contains the claimed temperature limitation. Regarding Claim 31, the hot exhaust gases are used as firing gases (column 3, lines 31-33). However, Meyer et al does not teach providing feed material with micropores or the drying step in Claim 27.

Regarding providing feed with micropores, Fujita et al teaches fired iron ore pellets. It would have been obvious to one of ordinary skill in the art at the time the invention was made to expect that the iron ore in Meyer et al would have micropores, since Fujita et al teaches that in general, iron ore pellets have micropores that provide a relatively high degree of porosity (column 1, lines 39-41).

Regarding drying, Ando et al teaches a method for reducing iron in a rotary kiln (abstract), where the iron is compounded pellets or lumps or ore and a carbonaceous reducing agent (column 5, lines 43-49). Ando et al teaches drying in a traveling grate (column 7, lines 45-51). Pellets are dried to about 0.5-wt% water content prior to charging (column 9, lines 51-68). Although pellets are used in the example, one of ordinary skill in the art would expect to dry lumps to the same water content, since Ando et al discloses equal utility for lump and pellet feed. Although Ando et al does not disclose the drying temperature, it is well settled that where the principal difference between a claimed process and that taught by a reference is a temperature difference, it is incumbent upon applicants to establish the criticality of that difference.

Further regarding Claim 29, the process reads on a storage bin. Regarding Claim 30, the sponge iron can be dried in the same unit it is fired (column 2, lines 66 and 67) and is directly charged (line 70), reading on a thermally insulated charging system. Regarding Claim 32, the gases are 150-350 °C (Satomi et al, column 8, lines 28-30).

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al in view of Fujita et al and Ando et al as applied to claim 27 above, and further in view of the publication by U.S.S.

Meyer et al in view of Fujita et al and Ando et al discloses the invention substantially as claimed. However, Meyer et al in view of Fujita et al and Ando et al does not teach storing the feed material as in Claim 33. U.S.S. teaches storing approximately 6 month's supply near the furnaces (pp. 570-71). Six month's supply is within the range of at least one month. Although this storage requirement is discussed in relation to blast furnace production, the same would be expected for any facility utilizing the same feed material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the feed materials as taught by U.S.S., since ores are not often mined during the colder months.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al in view of Fujita et al, Ando et al and the publication by U.S.S.

Meyer et al teaches an iron ore reduction process comprising pelletizing oxidic iron ore, firing the pellets at 700-1050 °C and reducing the pellets (column 1, lines 69-72). Lumps read on pellets. The pellets are dried before they are fired (column 2, lines 66 and 67). The sponge iron pellets have high porosity. The time for heating the charge is 5-60 minutes (column 3, line 15). The temperature of the sponge iron pellet to the reduction process would be 150-350 °C, which contains the claimed temperature limitation. However, Meyer et al does not teach providing feed material with micropores, storing the feed material or the drying step in Claim 34.

Regarding providing feed with micropores, Fujita et al teaches fired iron ore pellets. It would have been obvious to one of ordinary skill in the art at the time the invention was made to

expect that the iron ore in Meyer et al would have micropores, since Fujita et al teaches that in general, iron ore pellets have micropores that provide a relatively high degree of porosity (column 1, lines 39-41).

Regarding storing the feed material, U.S.S. teaches storing approximately 6 month's supply near the furnaces (pp. 570-71). Six month's supply is within the range of at least one month. Although this storage requirement is discussed in relation to blast furnace production, the same would be expected for any facility utilizing the same feed material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the feed materials as taught by U.S.S., since ores are not often mined during the colder months.

Regarding drying, Ando et al teaches a method for reducing iron in a rotary kiln (abstract), where the iron is compounded pellets or lumps or ore and a carbonaceous reducing agent (column 5, lines 43-49). Ando et al teaches drying in a traveling grate (column 7, lines 45-51). Pellets are dried to about 0.5-wt% water content prior to charging (column 9, lines 51-68). Although pellets are used in the example, one of ordinary skill in the art would expect to dry lumps to the same water content, since Ando et al discloses equal utility for lump and pellet feed. Although Ando et al does not disclose the drying temperature, it is well settled that where the principal difference between a claimed process and that taught by a reference is a temperature difference, it is incumbent upon applicants to establish the criticality of that difference.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al in view of Fujita et al, Ando et al and the publication by U.S.S.

Meyer et al teaches an iron ore reduction process comprising pelletizing oxidic iron ore, firing the pellets at 700-1050 °C and reducing the pellets (column 1, lines 69-72). Lumps read

on pellets. The pellets are dried before they are fired (column 2, lines 66 and 67). The sponge iron pellets have high porosity. The time for heating the charge is 5-60 minutes (column 3, line 15). The temperature of the sponge iron pellet to the reduction process would be 150-350 °C, which contains the claimed temperature limitation. Regarding the type of direct reduction furnace, Meyer et al teaches fired pellets can be charged to rotary or shaft kiln (column 1, lines 39 and 47). Regarding Claim 36, the temperature of the sponge iron pellet to the reduction process would be 150-350 °C, which contains the claimed temperature limitation. Regarding Claim 39, the hot exhaust gases are used as firing gases (column 3, lines 31-33). However, Meyer et al does not teach providing feed material with micropores, storing the feed material or the drying step in Claim 35.

Regarding providing feed with micropores, Fujita et al teaches fired iron ore pellets. It would have been obvious to one of ordinary skill in the art at the time the invention was made to expect that the iron ore in Meyer et al would have micropores, since Fujita et al teaches that in general, iron ore pellets have micropores that provide a relatively high degree of porosity (column 1, lines 39-41).

Regarding storing the feed material, U.S.S. teaches storing approximately 6 month's supply near the furnaces (pp. 570-71). Six month's supply is within the range of at least one month. Although this storage requirement is discussed in relation to blast furnace production, the same would be expected for any facility utilizing the same feed material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the feed materials as taught by U.S.S., since ores are not often mined during the colder months.

Regarding drying, Ando et al teaches a method for reducing iron in a rotary kiln (abstract), where the iron is compounded pellets or lumps or ore and a carbonaceous reducing agent (column 5, lines 43-49). Ando et al teaches drying in a traveling grate (column 7, lines 45-51). Pellets are dried to about 0.5-wt% water content prior to charging (column 9, lines 51-68). Although pellets are used in the example, one of ordinary skill in the art would expect to dry lumps to the same water content, since Ando et al discloses equal utility for lump and pellet feed. Although Ando et al does not disclose the drying temperature, it is well settled that where the principal difference between a claimed process and that taught by a reference is a temperature difference, it is incumbent upon applicants to establish the criticality of that difference.

Further regarding Claim 37, the process reads on a storage bin. Regarding Claim 38, the sponge iron can be dried in the same unit it is fired (column 2, lines 66 and 67) and is directly charged (line 70), reading on a thermally insulated charging system. Regarding Claim 40, the gases are 150-350 °C (Satomi et al, column 8, lines 28-30).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference

claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In *re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 27-32 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 7,175,690 B2 in view of Fujita et al. However, US '690 does not claim providing a feed with micropores or the water content as in Claim 27. Regarding providing feed with micropores, Fujita et al teaches fired iron ore pellets. It would have been obvious to one of ordinary skill in the art at the time the invention was made to expect that the iron ore U.S. '690 would have micropores, since Fujita et al teaches that in general, iron ore pellets have micropores that provide a relatively high degree of porosity (column 1, lines 39-41). Regarding the amount of water, it would be expected that

the process of US '690 would result in the same content of water, since the process conditions in the present invention and that of US '690 are substantially the same.

Claim 33 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. '690 in view of U.S.S. US '690 substantially claims the same invention. However, US '690 does not claim storing the lump feed material of at least one month as in Claim 33. U.S.S. teaches storing approximately 6 month's supply near the furnaces (pp. 570-71). Six month's supply is within the range of at least one month. Although this storage requirement is discussed in relation to blast furnace production, the same would be expected for any facility utilizing the same feed material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the feed materials as taught by U.S.S., since ores are not often mined during the colder months.

Claims 34-36 and 38-40 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. US '690 in view of Fujita et al and U.S.S. US '690 substantially claims the same invention. However, US '690 does not claim providing a feed with micropores or the water content or storing the lump feed material of at least one month as in Claim 34. Regarding providing feed with micropores, Fujita et al teaches fired iron ore pellets. It would have been obvious to one of ordinary skill in the art at the time the invention was made to expect that the iron ore U.S. '690 would have micropores, since Fujita et al teaches that in general, iron ore pellets have micropores that provide a relatively high degree of porosity (column 1, lines 39-41). Regarding the amount of water, it would be expected that the process of US '690 would result in the same content of water, since the process conditions in the present invention and that of US '690 are substantially the same.

Regarding storing the feed material, U.S.S. teaches storing approximately 6 month's supply near the furnaces (pp. 570-71). Six month's supply is within the range of at least one month. Although this storage requirement is discussed in relation to blast furnace production, the same would be expected for any facility utilizing the same feed material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the feed materials as taught by U.S.S., since ores are not often mined during the colder months.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMA M. MCGUTHRY-BANKS whose telephone number is (571)272-2744. The examiner can normally be reached on M-F 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

/T. M. M./
Examiner, Art Unit 1793
30 July 2008